CUT GLASS.

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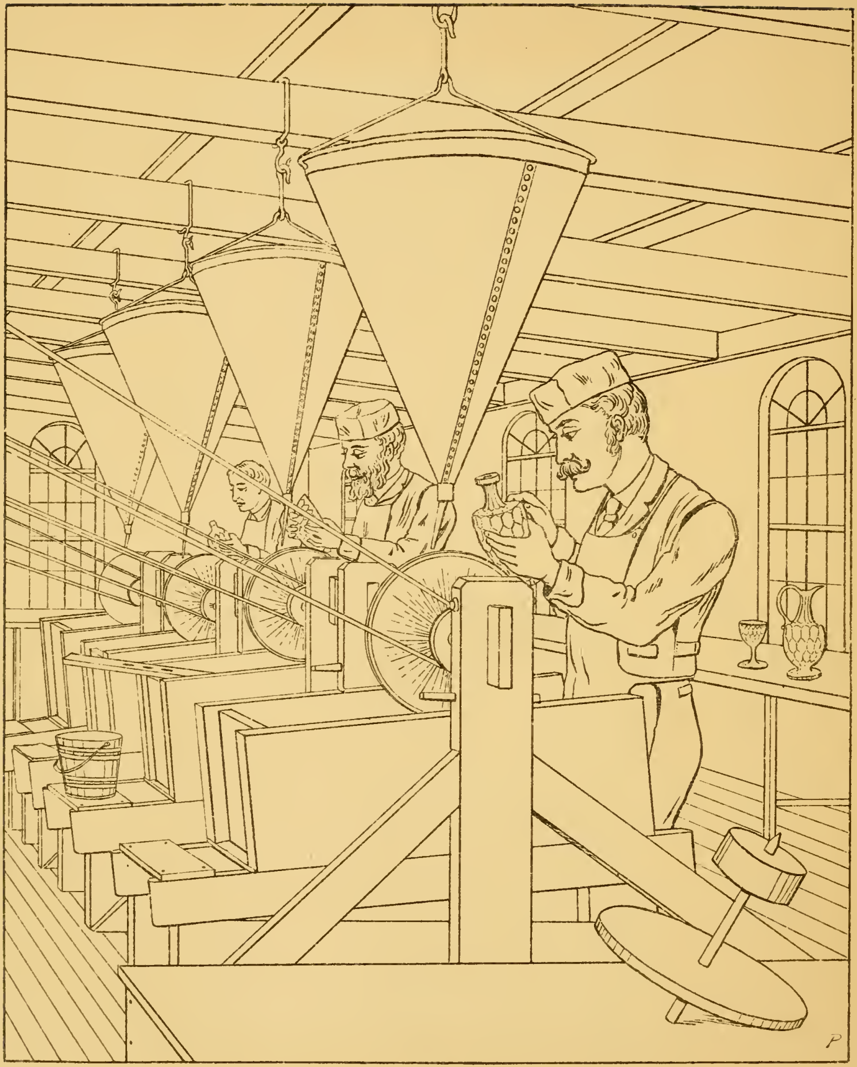
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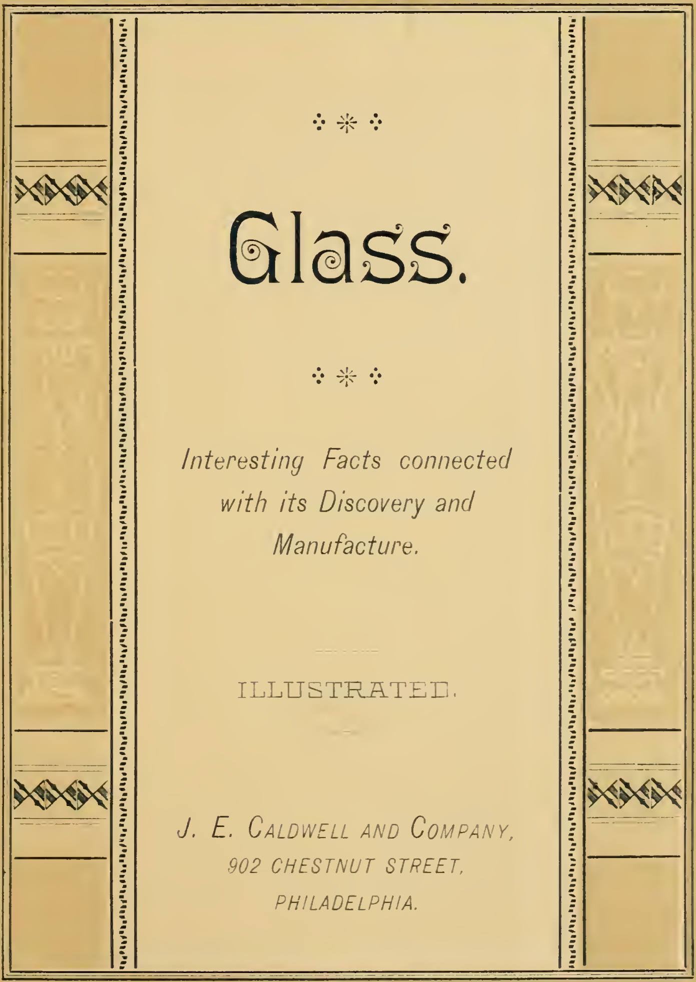


Glass.

Interesting Facts connected
with its Discovery and
Manufacture.

ILLUSTRATED.

J. E. Caldwell and Company,
902 Chestnut Street,
Philadelphia.

Press of
Times Printing House,
Philadelphia.

Having opened a department for the sale of

Richly Cut Glass,

we have determined to devote to it the same care and attention that have insured us success in all the other branches of our business. We shall offer only Glassware of strictly first-class quality and workmanship. Our assortment will be found extensive and varied, the cuttings and designs the richest and most elegant that can be produced.

J. E. Caldwell and Company,
902 Chestnut Street,
Philadelphia.

.: Glass :.

NOTHING definite is known concerning the discovery of glass. The oldest specimens are Egyptian, of an opaque character, and bearing date B. C. 1445.

Transparent glass does not date earlier than B. C. 750, when bottles were first made of it.

The Discovery of Glass.

After the Egyptians, the people most renowned for its manufacture were the Phœnicians, to whom legend points as the original inventors.

It is said that certain of their merchants, returning to their native shores, in a ship laden with natron (or soda), were compelled through stress of weather to land on a sandy tract under Mount Carmel, and while there placed their cooking-pots on lumps of soda laid upon the sand. The heat of the fire fusing the two ingredients produced what is said to have been the first glass ever made.

Although Josephus claims the invention of the art for the Jews, no remains of Jewish glass are known, it is probable that they were principally indebted for their supplies to the neighboring cities of Tyre and Sidon.

The glass-making art in Italy does not date earlier than the commencement of the Roman Empire. Under the Romans, colored as well as white glass was extensively used; the most remarkable specimens are the cameo vases, of which one of the most celebrated is the Portland Vase in the British Museum, a two-handed vessel, about ten inches in height, of transparent dark blue color, coated with a layer of opaque white glass, which has been treated as a cameo, the white coating having been cut down so as to give, on each side, groups of figures delicately executed in relief, and representing a marriage scene. This urn is said to have held the ashes of a member of the imperial family of Alexander Severus, who died A. D. 235.

The earliest attempt at glass-making in the United States was at Jamestown, Virginia, in the year 1746; but the first successful glass-factory in this country was built by Robert Hewes, of Boston, in the town of Temple, New Hampshire, in the year 1780.

From that date to the present time the manufacture of glass has continued to grow in this country; and although importations still continue, the crystal or flint glass now produced here cannot be surpassed in purity and brilliancy of lustre.

The process of making glass has always been an attractive and interesting study, and many will doubtless recall with pleasure, probably the only insight they have ever had into the details of its production, as they lingered around the glass-works at our Centennial Exposition, watching the fairy-like shapes created from the clear and beautiful crystal, under the manipulations of experienced workmen.

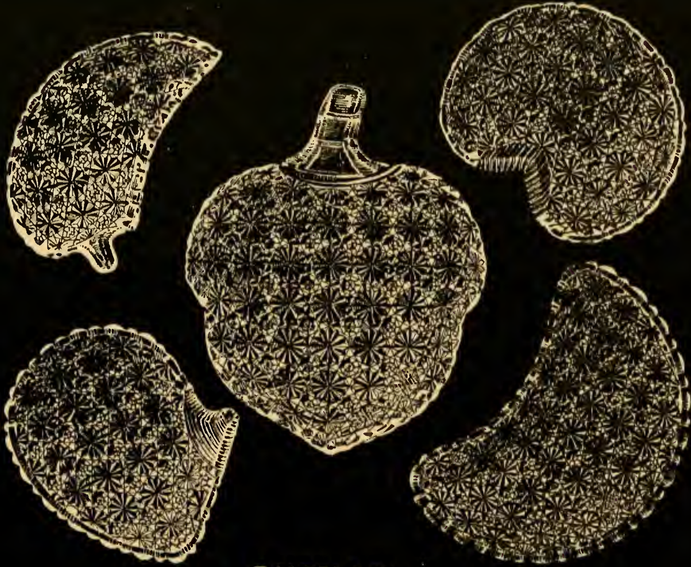
Let us follow the sand, creamy white and clean, to its fiery bed, note the addition of "flux," then, turning to other apertures in the great stack, see the molten mass drawn from crucibles in incandescent bulbs, deepening rapidly to orange, as it is rolled, blown, moulded and shaped into something comely and useful.

This pure white sand comes from Berkshire County, Massachusetts. That it may be melted, there is mixed with it oxide of lead, sulphurate of potash, saltpetre, borax and arsenic, in proper quantities. This is put into crucibles, which are subjected to the fiercest furnace heat for thirty-six hours before it becomes clear. These crucibles are made of clay brought from Missouri, called "Christie Fire-clay," mixed and softened by treading with the feet, and then moulded into shape by hand. Each crucible will hold a ton, and ten of these are built into each furnace. In these furnaces, fires are kept burning continually, ten tons of coal being consumed in each one daily. When the glass is melted, it is taken out in quantities needed, on the end of an iron tube about five feet long and an inch in diameter, the glass being of about the consistency of candy when ready to pull. By blowing in this tube it is made hollow, and can then be fashioned into any form that may be desired. After being shaped, it is placed in ovens and again heated, and afterwards gradually cooled in order to anneal or toughen it. The same interest follows the process of cutting. First comes the horizontal iron wheel, upon which water and grit (or sand) drip continually. On this the edges are squared or smoothed, the article then passes into the hands of a skilled artisan who cuts upon the surface of the glass the desired pattern with a grindstone brought down to an edge. This process is very slow, and therefore quite expensive, many days being required for elaborate pieces.

If ever so slight a mistake is made, or any flaw occurs, the whole is consigned to the waste or broken glass, fit only to be remelted. So careful are these manufacturers, that some pieces upon which many dollars' worth of labor have been expended, are frequently condemned on account of flaws, which an unskilled eye would not detect.

The patterns on glassware are formed by two or more sets of parallel lines crossing at various angles, producing different designs, which may be modified by minor cuts. The figures are generally diamonds with from four to eight sides, or stars with numerous points. As the stones used in cutting wear rapidly, a great deal of careful labor is necessary to keep them in order, as the edges must be sharp and the sides smooth. The lines cut by the wheel are V-shaped, and of such depth and width as will produce the greatest brilliancy by freely admitting light into the body of the glass.

The following description of the formation of some of the more prominent designs will give an idea as to the methods employed in cutting them; but actual examination of the glass can alone do justice to its wonderful beauty.



RUSSIAN

The Strawberry Diamond.

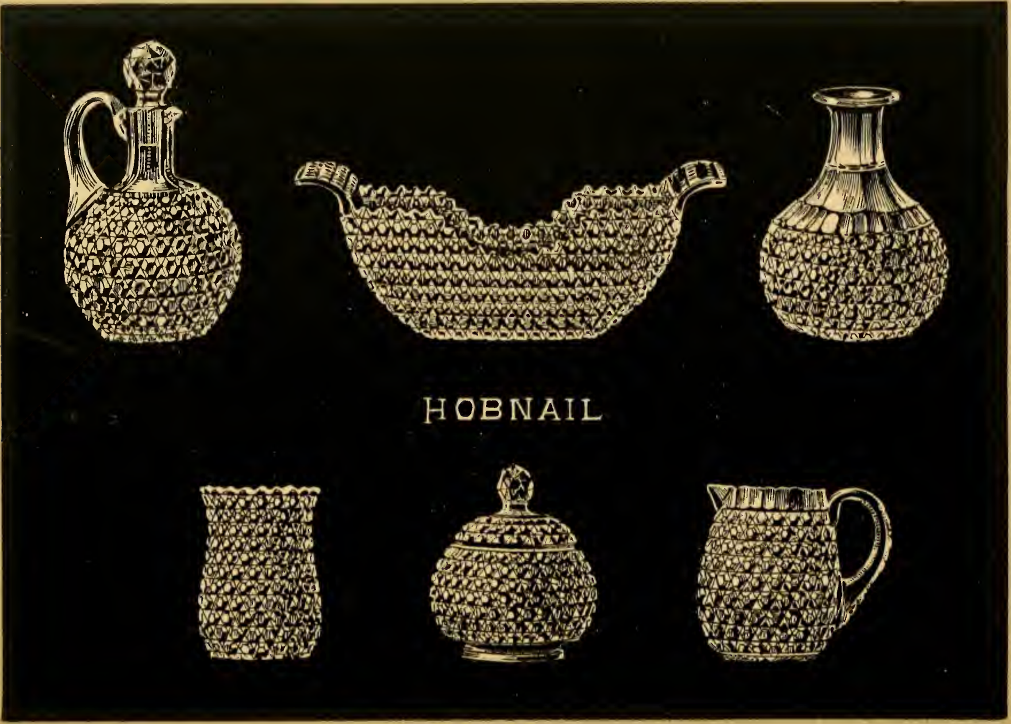
This pattern is formed by closely cut diagonal lines, crossed at right angles by others, forming numerous small squares or diamonds, which are not pointed, but have a flat surface, upon which two minute lines cross. Although this design is not modern, it is in great favor on account of old associations, and because of its neat and sparkling effect.

A Plain, Rich Pattern.

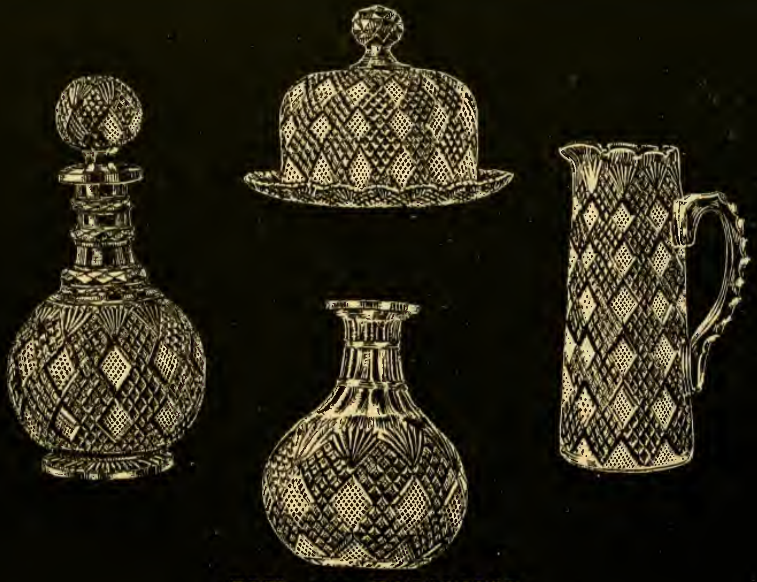
The Hob-Nail

The lines forming the strawberry diamond are also used for this design, excepting that they are farther apart, deeper cut, and have horizontal lines added, which cut the upper and lower corner from the squares, making them six-sided diamonds. This is a plain, unassuming pattern, preferred by many to the most elaborate; the cutting being deep, and, having many sides exposed, is very rich and brilliant.

Its Simplicity of Design.



HOBNAIL



FAN AND DIAMOND.

The · Fan and · Diamond

Unique in Outline.

is a combination of strawberry and fine sharp diamonds. The glass is marked out in large squares, or rather diamond-shaped divisions, the surfaces of which are cut separately into alternate rows of these two patterns; between the upper row of diamonds and the top of the article is a plain space, terminating in wedge-shaped points between the squares, which are filled with radiating flutes forming the fan, and making a very graceful finish. Suggesting antique glassware, upon which it is frequently seen, it is exceedingly appropriate for the decoration of the old shapes now so much in demand.

The

.: Russian :.

This complicated pattern, strange as it may seem, is formed by six sets of parallel lines, extending directly across the article. The lines so ingeniously crossed form rows of large stars, with intervening hob-nails. On each of the hobs a fine sixteen-point star is cut.

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The brilliancy of this pattern is wonderful, the countless angles catching and reflecting light, till the whole piece glistens like diamonds. The small stars, which appear white when seen through from the smooth side of the glass, look like pearls set in the midst of jewels.

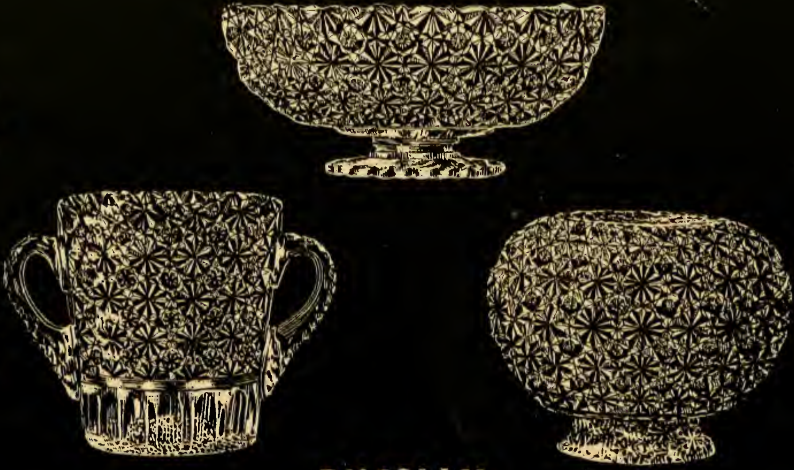
This

Exquisite Design

is

Dazzling

in Appearance.



RUSSIAN

TABLE

WARE.

Goblets,

Tumblers, 1-3 quart,

Tumblers, 1-2 pint,

Champagne Tumblers,

Champagnes, saucer shape,

Clarets,

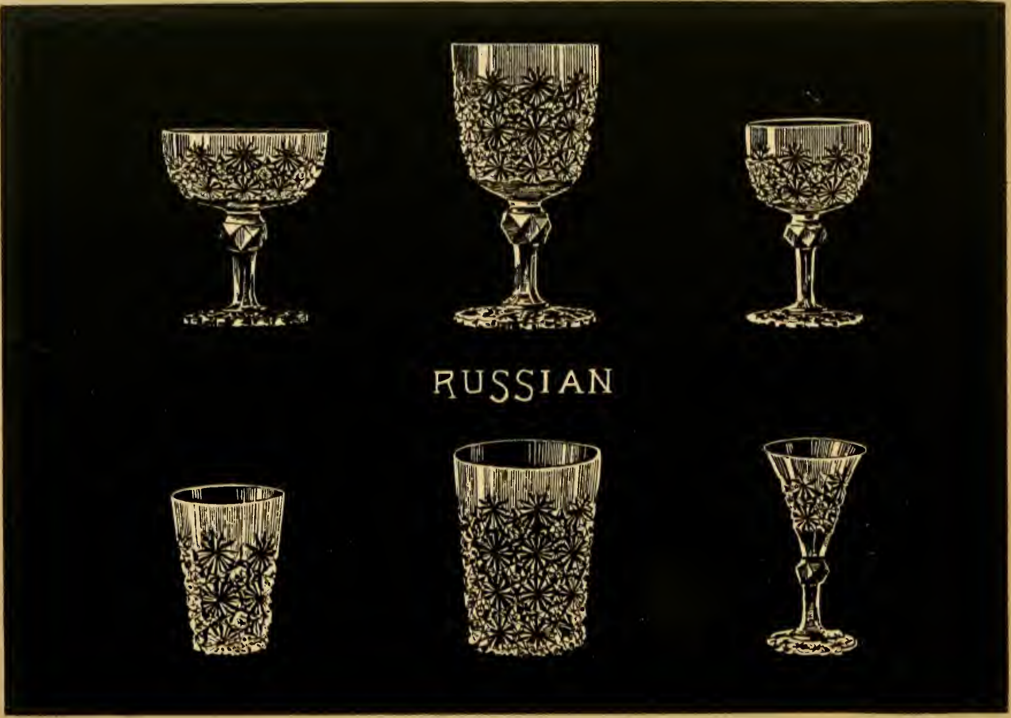
Sherries,

Wines,

Liqueurs,

Hocks,

Lemonades.



RUSSIAN

Roman Punch Glasses,

Finger Bowls,

Individual Butters,

Ice Cream Plates,

Ice Cream Trays,

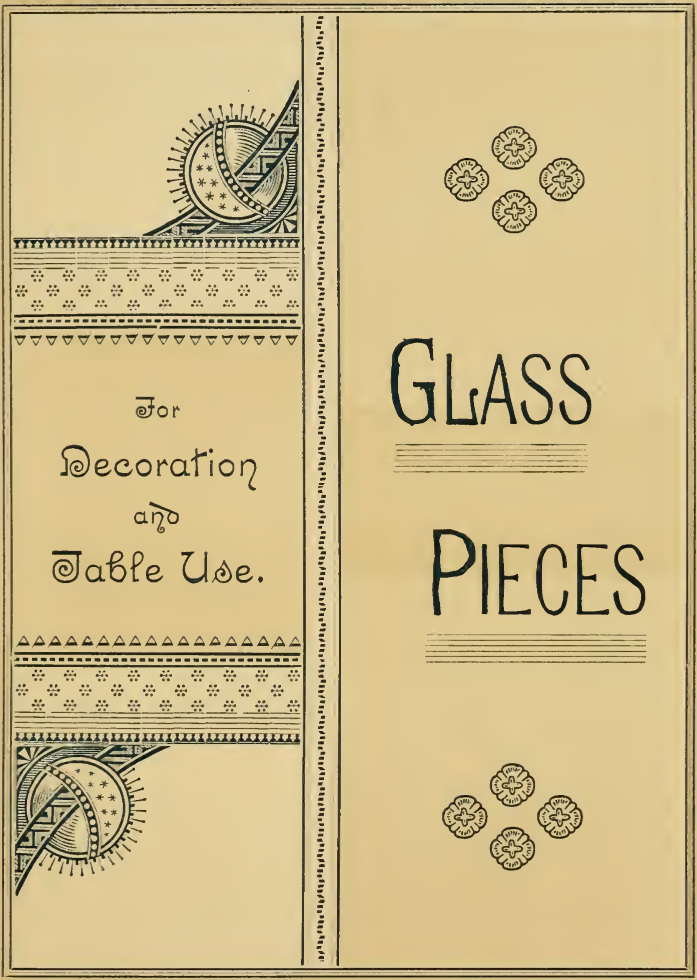
Coasters,

Caraffes,

Pitchers,

Decanters,

Claret Flagons.



GLASS PIECES

For Decoration and Table Use.

Fruit Bowls,

Salad Bowls,

Celery Trays,

Rose Globes,

Flower Boats,

Flower Vases,

Flower Trays.

Oil Cruets,

Vinegar Cruets,

Salt Cellars,

Crescents,

Honey Dishes,

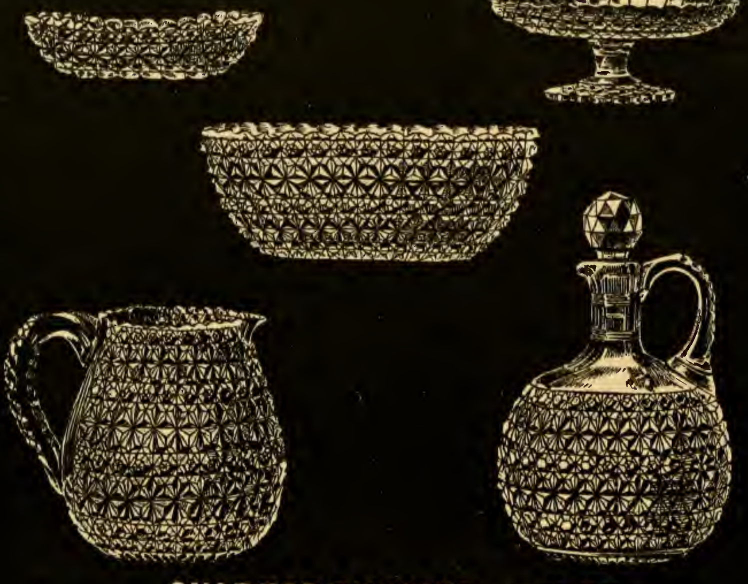
Oval Dishes,

Round Dishes,

Square Dishes,

Flasks,

Lily Leaves.



QUARTER DIAMOND AND STAR.

Leaf Dishes,
Shell Dishes,
Preserve Dishes,
Sugar Bowls,
Jelly Dishes, Cream Pitchers.
Bonbonnieres,
Nut Dishes,
Punch Bowls,
Punch Glasses,
Comports,
Butter Dishes,
Champagne Pitchers,
Cheese Plates and Covers,
Water Pitchers,
Claret Pitchers,
Ice Bowls.

* * Possessing ample facilities for executing * *
* * and filling orders for complete sets of * *
* * Fine Table Glass, we solicit patronage, * *
* * feeling confident that we can guarantee * *
* * entire satisfaction, both as to quality * *
* * and price. * * * * * * * * * * * *
* * Estimates furnished, * * * * * * * * *

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